

1/20

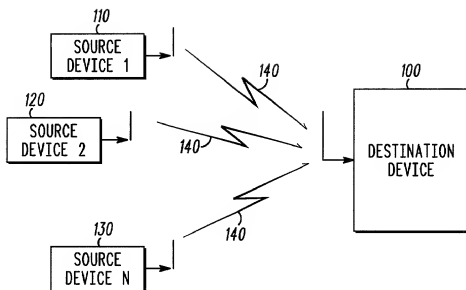


FIG. 1

09982271.101701

2/20

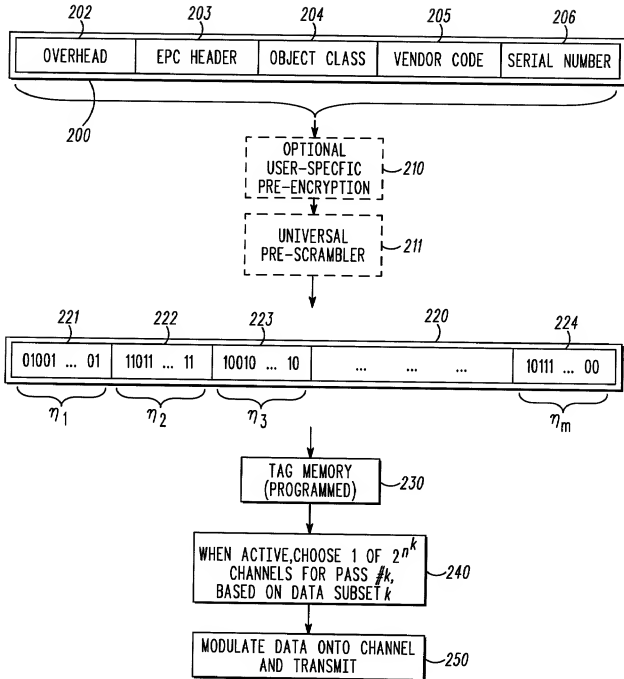


FIG. 2

3/20

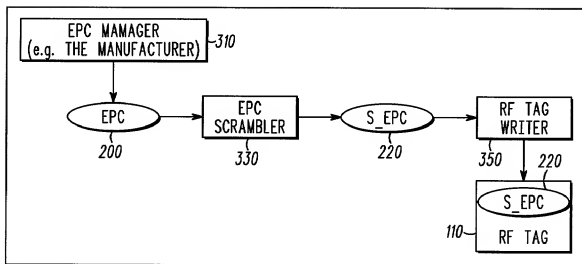


FIG. 3

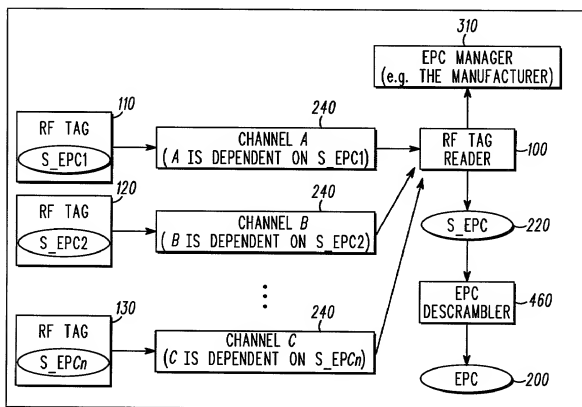


FIG. 4

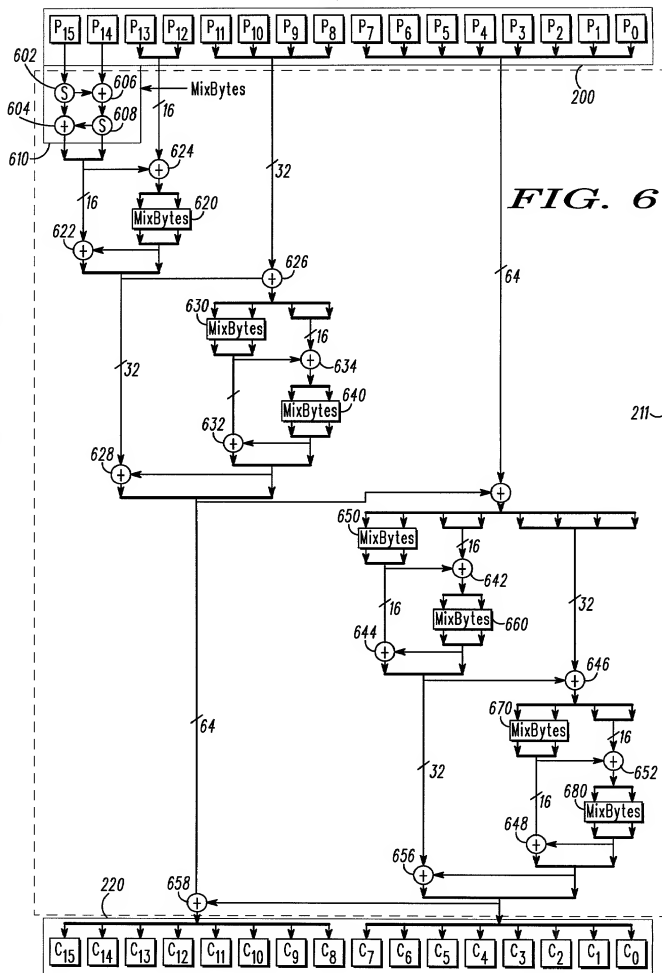
4/20

510 SCRAMBLE (DATA, LENGTH) {
 IF (LENGTH == 1)
 RETURN (Sbox [DATA]) ;
 DATA. LEFT = SCRAMBLE (DATA. LEFT, LENGTH/2) ;
 DATA. RIGHT ^= DATA LEFT ;
 DATA. RIGHT = SCRAMBLE (DATA. RIGHT, LENGTH/2) ;
 DATA. LEFT ^=DATA. RIGHT ;
}

520 DESCRAMBLE (DATA, LENGTH) {
 IF (LENGTH == 1)
 RETURN (INVERSESbox [DATA]) ;
 DATA. LEFT ^=DATA. RIGHT ;
 DATA. RIGHT = DESCRAMBLE (DATA. RIGHT, LENGTH/2) ;
 DATA. RIGHT ^= DATA. LEFT ;
 DATA. LEFT = DESCRAMBLE (DATA. LEFT, LENGTH/2) ;
}

FIG. 5

5/20



09982271.101701

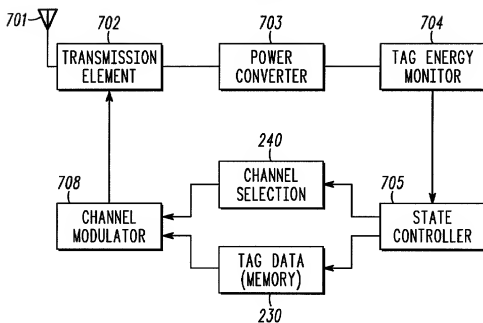


FIG. 7

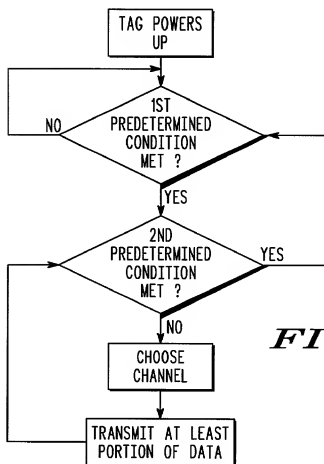


FIG. 8

0508271 101701

7/20

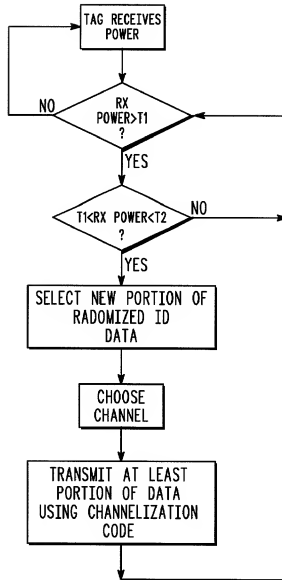


FIG. 9

8/20

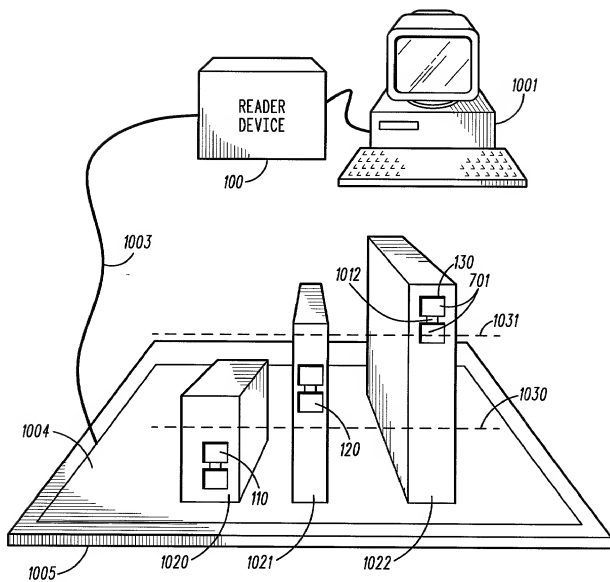
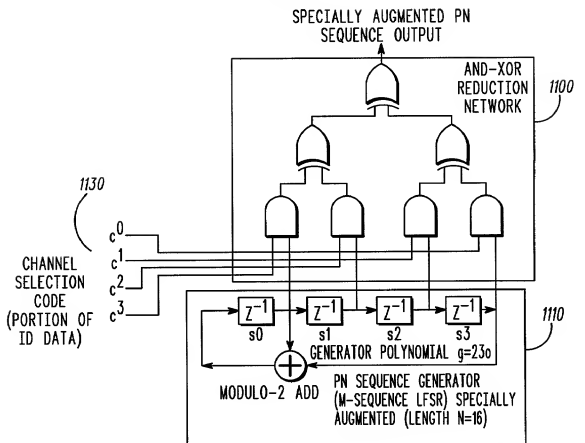


FIG. 10

9/20



LFSR STATE TABLE

CLOCK CYCLE	s0	s1	s2	s3	DEC. STATE
0 (ZERO OUT)	1	1	1	1	15
1 (HELD)	1	1	1	1	15
2	0	1	1	1	7
3	1	0	1	1	11
4	0	1	0	1	5
5	1	0	1	0	10
6	1	1	0	1	13
7	0	1	1	0	6
8	0	0	1	1	3
9	1	0	0	1	9
10	0	1	0	0	4
11	0	0	1	0	2
12	0	0	0	1	1
13	1	0	0	0	8
14	1	1	0	0	12
15	1	1	1	0	14

FIG. 11

10/20

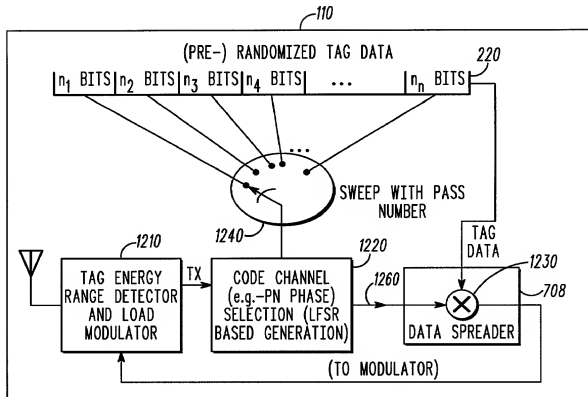


FIG. 12

11/20

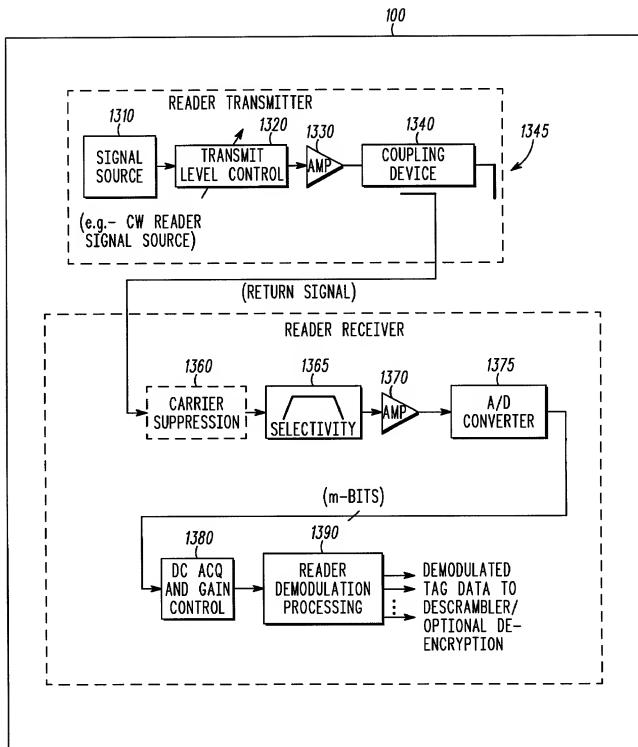
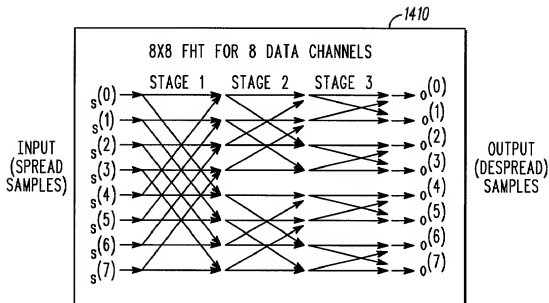
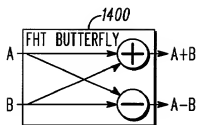


FIG. 13

12/20



1420

WALSH CODE (0)=	0	0	0	0	0	0	0
WALSH CODE (1)=	0	1	0	1	0	1	0
WALSH CODE (2)=	0	0	1	1	0	0	1
WALSH CODE (3)=	0	1	1	0	0	1	1
WALSH CODE (4)=	0	0	0	0	1	1	1
WALSH CODE (5)=	0	1	0	1	1	0	1
WALSH CODE (6)=	0	0	1	1	1	1	0
WALSH CODE (7)=	0	1	1	0	1	0	1

8 WALSH CODES (e.g., ROWS OF H_3 HADAMARD MATRIX)

$$(H_{n+1} = \begin{bmatrix} H_n & H_n \\ H_n & \overline{H_n} \end{bmatrix}, H_0 = 0)$$

FIG. 14

13/20

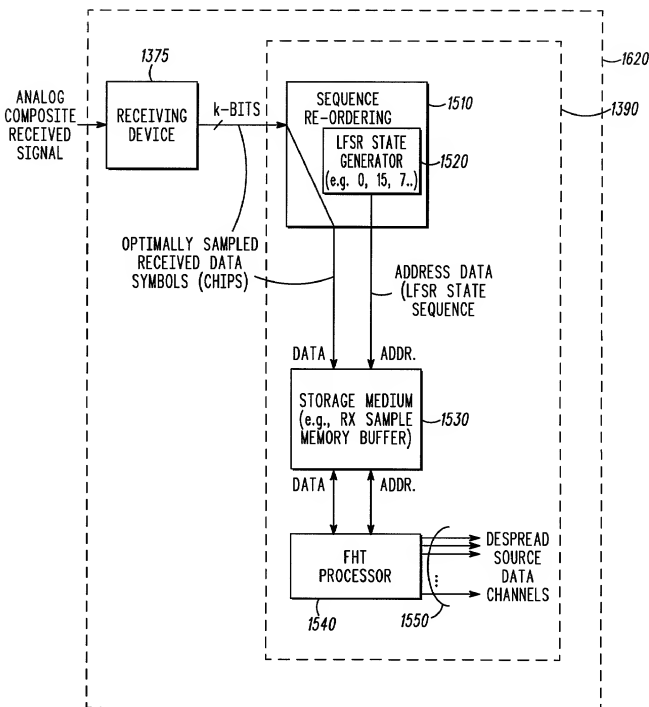


FIG. 15

14/20

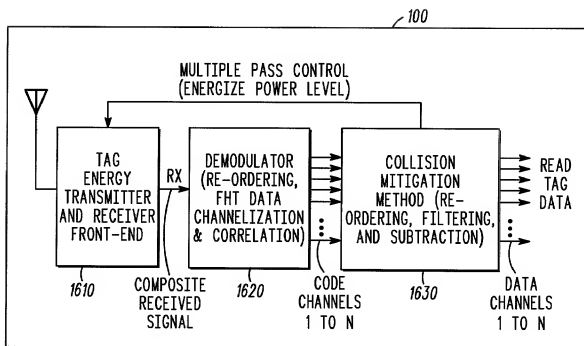
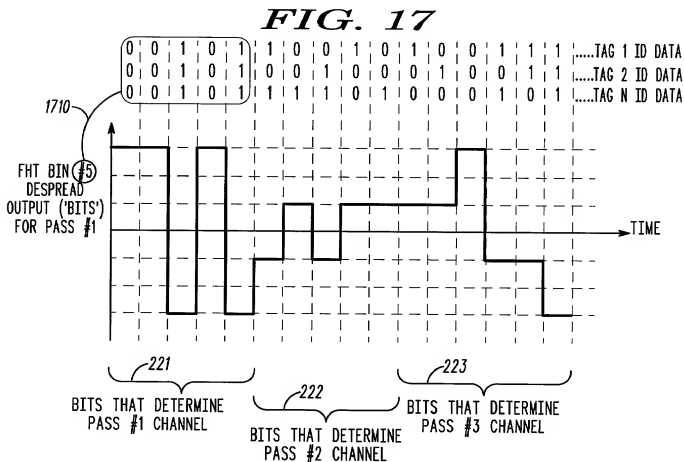


FIG. 16



15/20

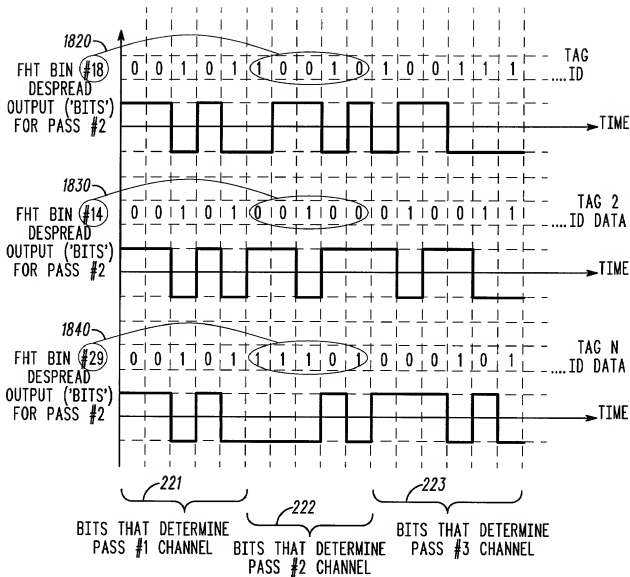


FIG. 18

16/20

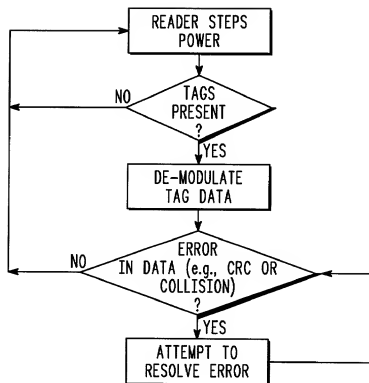


FIG. 19

09982271.101701

17/20

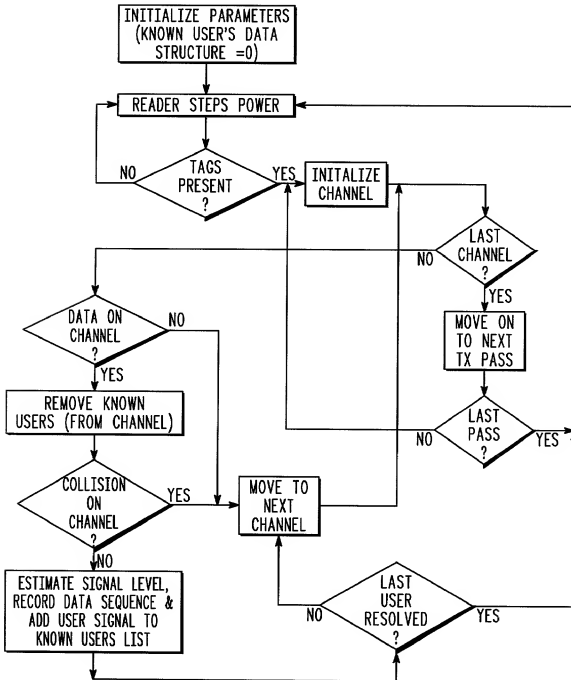


FIG. 20

09982271.101701

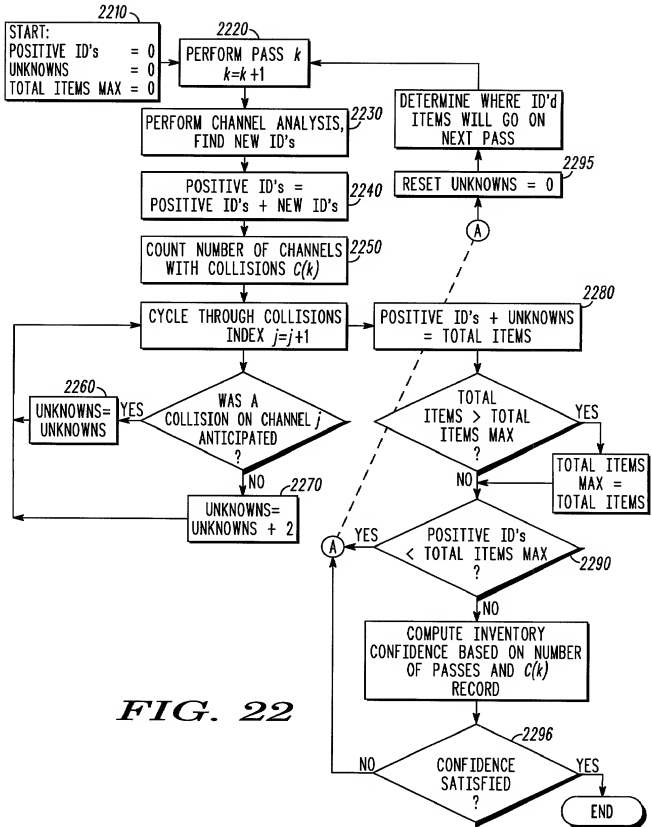
18/20

CHANNEL NUMBER	#0	#1	#2	#3	#4	#5	#6	#7
PASS #1	①	2 6	4 8		③	⑦	⑤	
PASS #2	① 4 5	2 8			6 ⑦			③
PASS #3	②			① 8	4 ⑦		③	⑤ 6
PASS #4			⑤	⑦	④	⑧	① 2 6	③
PASS #5	①		②	⑤ ⑦	③	6 8	④	
PASS #6		④ 8		⑤	① ③ 6	⑦	⑦	
PASS #7		③ 4 8		① 6		③ 4 8		⑦
PASS #8		② 4	⑥			③ 4 8	① 2	

LEGEND: CIRCLED ITEMS ARE NEWLY ID'd
SHADED ITEMS ARE PREVIOUSLY ID'd

FIG. 21

19/20



09982271-101701

20/20

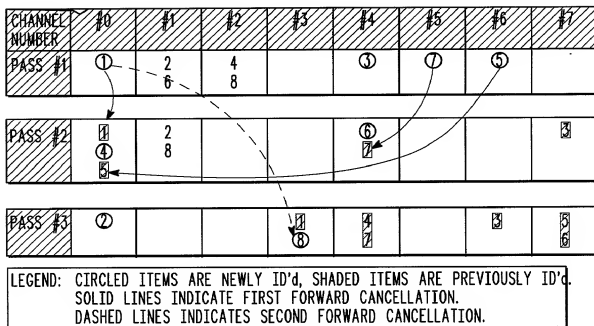


FIG. 23

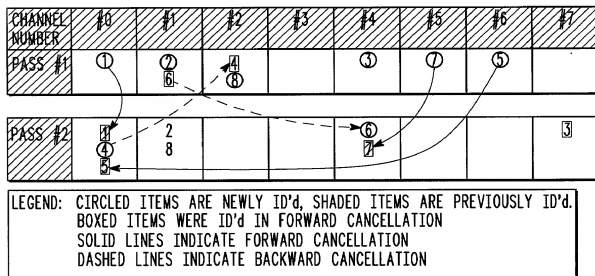


FIG. 24

09982271.101701